

In the course you will learn how to write a game in Python using the PyGame libraries. The game will be a basic platformer or top down style game. You will also be exploring basic version control using Github.

9am - 3pm

Please also include what resources you think you may need (i.e. NXTs, laptops, cameras etc)

- Goal of the course
 - Have a basic graphic game done(i.e. Platformer, story)
- Resources
 - Laptops/Computers
 - Python IDE
 - PyCharm (Sublime Text?)
 - Pygame library
- Scheduling Norms
 - Snack 15min
 - Lunch 30-45min
- Day 1 (Monday):
 - 30min Some sort of icebreakers/get to know everyone
 - 10min Give a simple schedule overview so the students know why they are gonna be learning the stuff we give them
 - 10min Basic command line (python and cmd/terminal/shell)
 - 1h Teach how to Install Python (3.5) and PyGame libraries on their laptops
 - 4h Teach basics of python
 - Printing
 - escape codes
 - variables and constants
 - How to get user input
 - Basic debugging
- Day 2
 - Continue teaching basics
 - Lists, tuples, maps/dictionaries
 - Loops
 - Importing libraries
 - Introduce to some “everyday life” modules (ex: random, time)
 - (Get as much as we can done before end of day)
 - Make a basic python text adventure
 - Homework
 - Make a guessing game where you guess a number between “your choice” and have a certain number of tries. If you get it correct in that amount of tries you win, otherwise you lose
- Day 2 (Tuesday):
 - Review homework
 - Help debugging and understand any missed areas
 - Introduce github

- Register
 - Upload code
 - View your own and someone else's code
 - Edit code
- Teach how to import libraries
- Teach more python
 - Classes
 - Defining Functions
 - Arguments
 - Exceptions
 - Explain how libraries work
 - Debugging/Breakpoints
- Introduce to PyGame libraries (if the above is fully understood, otherwise shift the stuff to the next day)
 - Open a blank window, set the size
 - Draw lines, rectangles
 - Basic Animation, Updating drawn object/images, update speed
 - Loading images, get rect, sprites
 - Movement, controls
 - sound/mixer function
 - Make program properly exit
- Snack Break (10:30 to 11ish)
- Continue Python (if done: PyGame introduction)
- Lunch (At about noon)
- Continue Python (if done: PyGame intro)
- Snack (2pm)
- Finish Python/PyGame intro
- Homework
 - Debug 2 simple programs
- Day 3 (Wednesday):
 - Review homework
 - Help debugging and understand any missed areas
 - Advanced PyGame/the harder stuff
 - Virtual and real maps, Camera that follows around player character
 - On screen text+fonts
 - Collision
 - Void/Death areas, goal areas Scores, leaderboard
 - Timer in game
 - Basic level mapping, the different ways of doing it
 - Snack Break (Start at 10:30-11ish)
 - Continue with advanced PyGame
 - Lunch (Noon)
 - Continues pygame

- Snack (2pm)
 - Finish PyGame
 - Figure out final project
 - Homework
 - Debug a simple game
- Day 4 (Thursday):
 - Review homework
 - Help debugging and understand any missed areas
 - Teach a few new concepts
 - Start project and make Github repository for it
 - Snack
 - Continue project
 - Lunch
 - Continue project
 - Snack
 - Get basics of project done
 - Homework
 - Work on project as possible
- Day 5 (Friday):
 - Review homework
 - Help debugging and understand any missed areas
 - Teach a few new concepts
 - Continue working on project
 - Snack
 - Continue project
 - Lunch
 - Continue project
 - Snack
 - Get more of project done
 - Homework
 - Work on project a bit
- Day 6 (Monday):
 - Review homework
 - Help debugging and understand any missed areas
 - Teach a few new concepts
 - Continue working on project
 - Snack
 - Continue project
 - Lunch
 - Continue project
 - Snack
 - Get more of project done
 - Homework

- Work on project as possible
- Day 7 (Tuesday):
 - Review homework
 - Help debugging and understand any missed areas
 - Teach a few new concepts
 - Finish project today
 - Snack
 - Continue project
 - Lunch
 - Continue project
 - Snack
 - Get more of project done (ideally finish project)
 - Homework
 - Finish project if not finished
- Day 8 (Wednesday):
 - Review homework
 - Help debugging and understand any missed areas
 - Half Day Maybe??
 - 9 to 12
 - Day where everyone shows off their game
 - Everyone can play everyone's games out
 - Try to see if they can understand other game's codes
 - Snack
 - Lunch
 - Leave if half day, don't leave if not
 - Snack
 - Give end of course materials out
 - Survey maybe
 - USB with learning projects on it and copy of course
 - Link to Github with course materials